

September 11, 2018

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United States Environmental Protection Agency  
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**RE: REQUEST FOR DOCUMENTS IN SUPPORT OF:**

**REQUEST FOR EXTENSION OF COMMENT PERIOD AND ADDITIONAL PUBLIC  
HEARINGS REGARDING JOINT PROPOSED RULE TO ROLL BACK VEHICLE  
GREENHOUSE GAS EMISSIONS AND CORPORATE AVERAGE FUEL ECONOMY  
STANDARDS FOR MODEL YEARS 2021-2026 LIGHT-DUTY VEHICLES**

**Docket IDs: NHTSA-2018-0067 / EPA-HQ-OAR-2018-0283**

Dear Acting Administrator Wheeler and Deputy Administrator King:

On August 27, 2018, the California Air Resources Board (CARB), along with the Attorneys General of the State of California and several other states, and several state agencies, requested that the United States Environmental Protection Agency (U.S. EPA) and the National Highway Traffic Safety Administration (NHTSA) extend the comment periods for the joint proposed rule referenced above,<sup>1</sup> and the associated draft Environmental Impact Statement. The proposal departs from legal precedent and from the factual record as CARB understands it, and needs careful evaluation. CARB writes separately in its capacity as a co-regulator with U.S. EPA, specifically recognized in the Clean Air Act to protect public health from motor vehicle air pollution and engines, to request information necessary to evaluate the proposal.

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<sup>1</sup> Published at 83 Fed.Reg. 42,986 (August 24, 2018).

NHTSA and U.S. EPA must identify and make available the technical studies and data on which it is relying to propose these rules.<sup>2</sup> As we wrote in the request for a reasonable comment period, the modeling, assumptions, and analysis underlying these proposals are dramatically different from that of previous, similar rulemakings. The explanation for this proposal, despite encompassing hundreds of pages, is not clearly presented or adequately supported, as elaborated on below. Further, unlike previous federal proposals for regulations of emissions from motor vehicles, CARB has not been involved in discussions developing the proposal, contrary to prior commitments from U.S. EPA and NHTSA to collaborate with California on these standards, and past practice developing motor vehicle emission standards.<sup>3</sup> Thus, CARB is unable fully to evaluate the federal proposal based on the information made available to date and other stakeholders are likely to encounter similar difficulties.

Under the Freedom of Information Act (FOIA) as well as the Administrative Procedures Act, CARB requests U.S. EPA and NHTSA make the information identified below publicly available in the dockets for the proposed rule within 20 days of your receipt of this letter. Please make the requested information available on a rolling basis as soon as it is identified, without awaiting identification or production of other requested information. Absent the requested information, along with the requested extensions to the comment periods for the proposal and associated draft Environmental Impact Statement, neither CARB nor other interested persons are being provided a reasonable opportunity to evaluate the proposed rule and its asserted basis.

If any of the requested information is asserted to be exempt from disclosure, please provide an index of those records as required by *Vaughn v. Rosen*, 484 F.2d 820 (D.C. Cir. 1973). This index should describe each document claimed as exempt from disclosure with sufficient information to allow a reasoned judgment as to whether it is properly exempt under FOIA.<sup>4</sup>

1. Information about the models and data used to estimate battery costs for electrified vehicles.
  - a. The proposal and the Preliminary Regulatory Impact Analysis (PRIA), NHTSA-2018-0067-1972, reference the Argonne National Laboratories' (ANL) website for the BatPaC model for estimating battery costs for vehicles, and state that the agencies used "an up-to-date version" of the model, but do not identify the version. (See, e.g., 83 Fed.Reg. 42, 985,43,002 (August 24,

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<sup>2</sup> *Connecticut Light & Power Co. v. Nuclear Regulatory Com.*, 673 F.2d 525, 530-531 (D.C. Cir. 1982); 42 U.S.C. § 7607(d)(3) [notice of proposed rulemaking "shall be accompanied by a statement of its basis and purpose" including "the factual data on which the proposed rule is based; the methodology used in obtaining and in analyzing the data; and the major legal interpretations and policy considerations underlying the proposed rule."].

<sup>3</sup> See, e.g., 77 Fed.Reg. 62,624, 62,632, 62,784-62,785 (Oct. 15, 2012) [discussing coordination with CARB to develop the standards at issue and for changes to standards].

<sup>4</sup> *Founding Church of Scientology of Washington, D.C. v. Bell*, 603 F.2d 945, 949 (D.C. Cir. 1979).

2018).) U.S. EPA and NHTSA have posted to the dockets for this action a document describing how BatPaC was developed, but this document appears to be from 2012. It does not state which version of BatPaC NHTSA and U.S. EPA used to estimate battery costs. See “Modeling the Performance and Cost of Lithium-Ion Batteries for Electric-Drive Vehicles, Argonne National Laboratory, ANL-12/55,” NHTSA Docket ID #: NHTSA-2018-0067-1692; EPA Docket ID#: EPA-HQ-OAR-2018-0283-0764.

- b. U.S. EPA and NHTSA should make available the information specifying the full battery sizes, in kilowatt-hours (kWh), battery pack configuration, and costs used for each vehicle iteration in the CAFE model. See PRIA, Electrification Technologies, Technology Overview, section 6.3.8.1, p. 357. The PRIA states that NHTSA posted ANL vehicle files that have battery pack sizes and costs for each vehicle, but there is no additional information about battery pack configuration (e.g., the number of cells, and the electrical topology of how those cells are arranged in the battery pack), nor do they directly reference where the files are posted. NHTSA and U.S. EPA have not posted the BatPaC model file(s) that were used. ANL cost and battery size data referenced in the PRIA, p. 358, footnote 325, but the footnote refers to a docket identification number that is not available. Previously, in support of the draft Technical Assessment Report and Proposed Determination on the Appropriateness of the Model Year 2022-2025 Light-duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation (Proposed Determination), EPA-420-R-16-020, November 2016, U.S. EPA posted the BatPaC files that it used.
- c. The proposal and PRIA provide conflicting information about which battery chemistries the agencies considered. For instance, the proposal and PRIA refer to NMC441-Gr chemistry for both plug-in hybrid-electric vehicles and battery-electric vehicles, but the ANL summary refers to NMC333. See, e.g., PRIA, pp. 372, Table 6-27, 373 [“We selected NMC441 as choice of chemistry for PHEVs and BEVs. NMC441 more suitable for high energy batteries capable of discharge rates.”]. The Excel file titled “ANL-Summary of Main Component Performance Assumptions NPRM” has a tab labeled ‘Description – BatPac’ with the same table listed as in the PRIA, except the chemistry listed for PHEVs and BEVs is NMC333-G instead of NMC441-Gr. See Docket ID Nos. EPA-HQ-OAR-2018-0283-0054 and NHTSA-2018-0067-0003. The proposal and PRIA do not directly reference this file.

This information is required to replicate and evaluate whether the modeling underlying the proposal is appropriate, considering the various vehicle and technology types.

- 2. The PRIA references Polk registration data, including survival rates aggregated by model year, calendar year, and body style. These data are needed to verify the

coefficients of the new model predictions for vehicle retirement (scrappage), but have not been made available. See, e.g., PRIA at pp. 1008, 1014, 1023, fig. 8-23, 1025, fig. 8-24, and 1027, fig. 8-25.

3. New vehicle sales and price data referenced in the proposal. This includes:
  - a. Data provided by the National Automobile Dealers Association (NADA) and others. See 83 Fed.Reg. at 43,095; PRIA, pp. 1017-1018.
  - b. Data describing historical transaction prices, and quarterly new vehicle sales data used to develop the dynamic new sales model. See PRIA, pp. 954-961.
  - c. Economic data used to develop the autoregressive distributed-lag (ARDL) model that predicts new vehicle sales and is used in the CAFE model. See 83 Fed.Reg. at 43,074.

This data is necessary to evaluate the proposal's predictions for fleet population, sales, and fatalities.

4. Report of analysis of the standard errors and significance of the ARDL sales model coefficients, F-statistic and  $R^2$  of the overall model, and variable stationarity and co-integration indicators. This information is needed to verify the statistical significance and errors of the coefficients used in the Volpe model. The coefficients for the ADRL sales model listed on p. 957, Table 8-1 of the PRIA, are not consistent with those implemented in the model. See CAFE Model Documentation, PRIA, p. 78, Table 17, available at: <https://www.nhtsa.gov/corporate-average-fuel-economy/compliance-and-effects-modeling-system> ["2018 NPRM for Model Years 2021-2026 Passenger Cars and Light Trucks," Model Documentation].
5. The coefficients for the dynamic fleet share equation described in the CAFE Model Documentation on p. 79. These are not listed anywhere. Additionally, according to the PRIA on p. 955, the model was based on EIA's National Energy Modeling System (NEMS), but no reference is provided for the NEMS model. This information is necessary to evaluate the equation used in the model.
6. Cited reference Anders Lie, Swedish Transport Administration, Peer Review of NHTSA's November 2011 Preliminary Report "Relationships Between Fatality Risk, Mass, and Footprint in Model Year 2000-2007 Passenger Cars and LTVs." This document reviews the 2011 study by Kahane that NHTSA relies upon, regarding the effects of mass reduction on fatality risk. See 83 Fed.Reg. at 43,112, n. 307. It is also item 0035 in the NHTSA-2010-0152 docket. However, attempting to access the document on the docket website results in a server error. See <https://www.regulations.gov/document?D=NHTSA-2010-0152-0035>, attempted August 28, 2018.

7. CAFE model output file Annual Societal Effects Report. See CAFE Model Documentation, *infra*. This data describes predicted fatalities by regulatory class, body style, and weight threshold of vehicle. This detailed information is necessary to evaluate the fatalities computation in the CAFE model.
8. The agencies' detailed explanation and derivation of their point estimates for the increase in fatalities per hundred pounds of mass reduction over a constant footprint based on historical crash data, for model years 2004-2011 and calendar years 2006-2012. Previously, these details were provided in a separate report such as the "2016 Puckett and Kindelberger report." No such report is available this time. The PRIA only provides a summary table of the results of this analysis, yet states an "updated analysis" exists. See PRIA, p. 1357, section 11.4.
9. Data used by the agencies to derive the new statistical model that predicts fatality rates by vehicle age. See PRIA Table 11-21, p. 1397. The coefficients of the model are provided, but without the data it is not possible to evaluate whether the coefficients were properly derived. Additionally, the coefficients provided in the PRIA are different (significant digits and sign changes) than those identified in the actual model source code (which are also commented out such that they are non-functional) and are different from the model year based coefficients used in the input files. This renders unclear what coefficients the analysis in the NPRM is based upon.
10. So-called "off model" analytical tools the agencies used to summarize and tabulate the results of the CAFE model. See 83 Fed.Reg. at 43,256, n. 595. These tools and calculations analyzed various components of social and private costs and benefits, as well as other factors. These analytical tools are supposedly available on NHTSA's website but we have not located them.
11. Input files used for the Autonomie model for various engine technologies that U.S. EPA and NHTSA rely on to calculate the efficiency improvements of various technologies, such as turbocharging and high-compression-ratio (Atkinson) engines. The input and output files are required to be able to understand what U.S. EPA and NHTSA relied on as representative of these engine technologies, and to confirm correct efficiency levels were calculated for the various technologies, considering the current state of the art.
12. Modeling tools developed by U.S. EPA including:
  - a. All files necessary to utilize - with the Advanced Light-Duty Powertrain and Hybrid Analysis (ALPHA) and the Optimization Model for reducing Emissions of Greenhouse gases from Automobiles (OMEGA) - the response surface equations developed by U.S. EPA as identified or referenced in: "Peer Review of EPA's Response Surface Equation Report" (Docket ID No. EPA-HQ-OAR-2018-0283-0025); and SAE paper 2018-01-1273 authored by U.S.

EPA (Docket ID No. EPA-HQ-OAR-2018-0283-0028).

- b. All new or modified input files, source code, and executable files for U.S. EPA's OMEGA model developed since the release of the Proposed Determination in late 2016.
- c. All current and new input files, source code, and executable files for ALPHA used for the Proposed Determination in late 2016 and/or modified since then.
- d. All current and new pre-processors and their inputs used for the Proposed Determination in late 2016 or modified since then to categorize, sort, and rank technology packages and costs for use with OMEGA.

We understand that these models evaluate the cost and effectiveness of available technologies to meet greenhouse gas emissions targets. We also understand that NHTSA and U.S. EPA have previously relied on these models. These files and data are thus necessary for CARB and the public to be able to verify the agencies' claims that that the CAFE model has advantages to the U.S. EPA models and to consider the relevance and make sense of the docketed materials, including the peer review and SAE paper identified above.

It is unreasonable for U.S. EPA and NHTSA to expect interested persons to evaluate the massive changes in outcomes, models, approaches, inputs, and analyses in a 60-day comment period (and in even less time for the draft environmental impact statement). This is especially apparent when not even CARB, despite its considerable expertise in these matters, is able to perform a complete review.

CARB also requests a waiver of searching and copying fees for this request. CARB is a non-commercial, governmental organization, and should not be subject to fees for this request. The information requested is likely to significantly contribute to public understanding of NHTSA and U.S. EPA's proposed rules. CARB is a co-regulator of motor vehicle emissions with U.S. EPA, and has coordinated with U.S. EPA and NHTSA on the regulations that the agencies are proposing to change. CARB has a significant interest in the proposed action, and the requested information will enable CARB to evaluate the potential impacts of the proposed rule.

Under FOIA, agencies must waive such fees in instances like this where disclosure is likely to contribute to public understanding of the operations and activities of the government and disclosure is not primarily in the commercial interest of the requester.<sup>5</sup>

You may contact me at (916) 323-9608 or [ellen.peter@arb.ca.gov](mailto:ellen.peter@arb.ca.gov), or Senior Attorney Pippin C. Brehler at (916) 445-8239 or [pippin.brehler@arb.ca.gov](mailto:pippin.brehler@arb.ca.gov), to discuss any of these issues. If this request for a fee waiver is denied, please contact Mr. Brehler before

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<sup>5</sup> See 5 U.S.C. § 552(a)(4)(A)(iii); 40 C.F.R. §2.107(1)(1) [U.S. EPA adoption of these requirements].

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incurring any costs in responding to this request. We look forward to receiving your response to these requests within twenty business days, as required by FOIA.

Sincerely,



Ellen M. Peter  
Chief Counsel  
Executive Office  
California Air Resources Board

CC:

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